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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER

PUENTE, EMERSON C

ART UNIT PAPER NUMBER

2184

DATE MAILED: 11/01/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/513,010

Applicant(s)

HUANG ET AL.

Examiner

Emerson C Puente

Art Unit

2184

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 25 February 2000.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☐ Claim(s) _____ is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-10 and 31-52 is/are rejected.
- 7) ☒ Claim(s) 7, 38, and 49 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

DETAILED ACTION

1. Claims 1-10 and 31-52 have been examined.

Claim Objections

2. Claims 7, 38, and 49 are objected to under 37 CFR 1.75 as being substantial duplicates of claims 6, 37, and 48, respectively. When two claims in an application are duplicates or else are so close in content that they both cover the same thing, despite a slight difference in wording, it is proper after allowing one claim to object to the other as being a substantial duplicate of the allowed claim. See MPEP § 706.03(k).

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. § 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1-9, 31-40, and 42-51 are rejected under 35 U.S.C. § **102(b)** as being clearly anticipated by US Patent No. 5,153,874 of Kohno et al. referred hereinafter "Kohno".

In regards to claims 1, Kohno discloses a method of managing the state of a computer network with redundant network connections, comprising:

determining the state of a primary network connection between each pair of network nodes (see figure 3 and 4; see column lines 35-52);

determining the state of a redundant network connection between each pair of network nodes (see figure 3 and 4; column 3 lines 35-52);

selecting either the primary network connection or the redundant network connection for sending and receiving data between each pair of network nodes, such that the network path selected to be used to communicate is selected independently based on the determined network states for each pair of network nodes (see column 3 lines 5-7).

In regards to claims 2, Kohno discloses a method further comprising building a network status table that indicated results of determining the state of the primary and redundant network connections between each pair of network nodes (see figure 4).

In regards to claim 3, Kohno discloses a method wherein the network status table comprises data representing network status based on data received at a node from other network nodes (see figure 4 and column 3 lines 40-47).

In regards to claim 4, Kohno discloses a method wherein the data received at a node from other networked nodes comprises a diagnostic message (column 3 lines 3-12).

In regards to claim 5, Kohno discloses a method wherein the data received at a node from other network nodes comprises data representing the ability of the other nodes to receive data from other different network nodes (see figure 4 and column 3 lines 43-47).

In regards to claims 6 and 7, Kohno discloses a method wherein the network status table comprises data representing network status based on a node's ability to send data to other nodes (see figure 4 and column 3 lines 43-47).

In regards to claim 8, Kohno discloses a method wherein selecting the primary or redundant network connection for communication between each pair of network nodes comprises:

- selecting the primary network connection if the state of the primary network connection is determined to be operable; and

- selecting the redundant connection if the state of the primary network connection is determined to be inoperable

Kohno states the use of a switch means such that the receiving circuit is connected to a normal transmission line when abnormality is decided (see column 3

.Art Unit: 2184

lines 25-30), indicating a switch from the primary network connection to a secondary network connection when the primary connection is inoperable or abnormal.

In regards to claim 9, Kohno discloses a method wherein selecting the primary or redundant network connection for communication between each pair of network nodes comprises:

- selecting the primary network connection to transmit data if the state of the primary network connection is determined to be operable to transmit data;

- selecting the primary network connection to receive data if the state of the primary network connection is determined to be operable to receive data;

- selecting the redundant network connection to transmit data if the state of the primary network connection is determined to be inoperable to transmit data; and

- selecting the redundant network connection to receive data if the state of the primary network connection is determined to be inoperable to receive data.

Kohno states the use of a switch means such that the receiving circuit is connected to a normal transmission line when abnormality is decided (see column 3 lines 25-30), indicating a switch from the primary network connection to a secondary network connection when the primary connection is not operable or abnormal. Thus, it is implied that there is a primary network connection to transmit and receive data upon determination that the network connection is operable and a redundant network connection to transmit and receive data upon determination the network connection is inoperable.

In regards to claim 31, Kohno discloses a method wherein determining the state of connections between each pair of network nodes comprises determination of whether each node in a pair of network nodes can send data to the other node and can receive data from the other node in the pair. Kohno states the use of an abnormal test circuit to check if the transmission line is normal or operable, thus determining whether each node in a pair can send and receive data to the other (see column 2 lines 58-69 and column 3 lines 1-4). Upon determination that the transmission line between a pair is abnormal or inoperable, it is understood that data cannot be sent and received between each node in the pair.

In regards to claims 32, Kohno discloses a computer network interface, the interface operable to:

- determining the state of a primary network connection between the network interface and the network interfaces of other network nodes (see figure 3 and 4; see column lines 35-52);

- determining the state of a redundant network connection between the network interface and the network interfaces of other network nodes (see figure 3 and 4; column 3 lines 35-52);

- selecting either the primary network connection or the redundant network connection for communication with each pair of network nodes, such that the network connection selected is selected independently based on the determined network states for each other network nodes (see column 3 lines 5-7).

In regards to claims 33, Kohno discloses a computer network interface further comprising a network status table that indicated results of the determination of the state of the primary and redundant network connections between the computer network interface and the interface of other network nodes (see figure 4).

In regards to claim 34, Kohno discloses a network interface wherein the network status table comprises data representing network status based on data received at a node from other network nodes (see figure 4 and column 3 lines 40-47).

In regards to claim 35, Kohno discloses a network interface wherein the data received at a node from other network nodes comprises a diagnostic message (column 3 lines 3-12).

In regards to claim 36, Kohno discloses a network interface wherein the data received at a node from other network nodes comprises data representing the ability of the other nodes to receive data from other different network nodes (see figure 4 and column 3 lines 43-47).

In regards to claims 37 and 38, Kohno discloses a network interface wherein the network status table comprises data representing network status based on a node's ability to send data to other nodes (see figure 4 and column 3 lines 43-47).

In regards to claim 39, Kohno discloses a network interface wherein selecting the primary network connection or redundant network connection for communication between each pair of network nodes comprises:

- selecting the primary network connection if the state of the primary network connection is determined to be operable; and

- selecting the redundant connection if the state of the primary network connection is determined to be inoperable

Kohno states the use of a switch means such that the receiving circuit is connected to a normal transmission line when abnormality is decided (see column 3 lines 25-30), indicating a switch from the primary network connection to a secondary network connection when the primary connection is inoperable or abnormal.

In regards to claim 40, Kohno discloses a network interface wherein selecting the primary or redundant network connection for communication between each pair of network nodes comprises:

- selecting the primary network connection to transmit data if the state of the primary network connection is determined to be operable to transmit data;

- selecting the primary network connection to receive data if the state of the primary network connection is determined to be operable to receive data;

- selecting the redundant network connection to transmit data if the state of the primary network connection is determined to be inoperable to transmit data; and

- selecting the redundant network connection to receive data if the state of the primary network connection is determined to be inoperable to receive data.

Kohno states the use of a switch means such that the receiving circuit is connected to a normal transmission line when abnormality is decided (see column 3 lines 25-30), indicating a switch from the primary network connection to a secondary network connection when the primary connection is not operable or abnormal. Thus, it is implied that there is a primary network connection to transmit and receive data upon determination that the network connection is operable and a redundant network connection to transmit and receive data upon determination the network connection is inoperable.

. Art Unit: 2184

In regards to claim 42, Kohno discloses a computer network interface wherein determining the state of connections between each pair of network nodes comprises determination of whether each node in a pair of network nodes can send data to the other node and can receive data from the other node in the pair. Kohno states the use of an abnormal test circuit to check if the transmission line is normal or operable, thus determining whether each node in a pair can send and receive data to the other (see column 2 lines 58-69 and column 3 lines 1-4). Upon determination that the transmission line between a pair is abnormal or inoperable, it is understood that data cannot be sent and received between each node in the pair.

In regards to claims 43-51, see basis for rejection for claims 1-9, respectively. Claims 43-51 are simply a machine readable medium with instructions thereon for implementing the method set forth in claims 1-9, respectively, and therefore is necessarily included in the teachings of Kohno.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. § 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 10, 41, and 52 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Kohno in further view of U.S. Patent No. 6,434,117 of Momona.

In regards to claim 10, Kohno discloses all the claimed subject matter except a method wherein selecting a connection for sending and receiving data between each pair of network nodes comprises selecting a connection for sending and receiving data from a first node to one or more connected intermediate nodes and selecting a connection for sending and receiving data from an intermediate node to a second node

Art Unit: 2184

However, Momona discloses a method wherein selecting a connection for sending and receiving data between each pair of network nodes comprises selecting a connection for sending and receiving data from a first node to one or more connected intermediate nodes and selecting a connection for sending and receiving data from an intermediate node to a second node. He discloses the use of one or more intermediate nodes as a repeater (see figure 1 and column 4 lines 5-11).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have a method wherein selecting a connection for sending and receiving data between each pair of network nodes comprises selecting a connection for sending and receiving data from a first node to one or more connected intermediate nodes and selecting a connection for sending and receiving data from an intermediate node to a second node. A person of ordinary skill in the art would have been motivated to make the modification because Kohno discloses the use of repeaters and having intermediate nodes wherein each intermediate node acts as repeaters, as per teachings of Momona, would lessen distortion or even possibly remove the need to have repeaters per transmission line between each node.

In regards to claim 41, Kohno discloses all the claimed subject matter except a computer network interface wherein selecting a connection for sending and receiving data between each pair of network nodes comprises selecting a connection for sending and receiving data from a first node to one or more connected intermediate nodes and selecting a connection for sending and receiving data from an intermediate node to a second node. However, Momona discloses a computer network interface wherein selecting a connection for sending and receiving data between each pair of network nodes comprises selecting a connection for sending and receiving data from a first node to one or more connected intermediate nodes and selecting a connection for sending and receiving data from an intermediate node to a second node. He discloses the use of one or more intermediate nodes as a repeater (see figure 1 and column 4 lines 5-11).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have a computer network interface wherein selecting a connection for sending and receiving data between each pair of network nodes

Art Unit: 2184

comprises selecting a connection for sending and receiving data from a first node to one or more connected intermediate nodes and selecting a connection for sending and receiving data from an intermediate node to a second node. A person of ordinary skill in the art would have been motivated to make the modification to Kohno because Kohno discloses the use of repeaters and having intermediate nodes wherein each intermediate node acts as repeaters, as per teachings of Momona, would lessen distortion or even possibly remove the need to have repeaters per transmission line between each node.

In regards to claims 52, see basis for rejection for claims 10, respectively. Claims 52 are simply a machine readable medium with instructions thereon for implementing the method set forth in claims 10, respectively, and therefore is necessarily included in the teachings of Kohno in further view of Momona.

Conclusion

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

See Form PTO-892.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to examiner Emerson Puente, whose telephone number is (703) 305-8012. The examiner can normally be reached on Monday-Friday from 8:00AM- 5:00PM, first Fridays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, *Robert Beausoliel*, can be reached on (703) 305-9713 or via e-mail addressed to [*robert.beausoliel@uspto.gov*]. The fax number for the organization where this application or proceeding is assigned are (703) 746-7239 for regular communications and (703) 746-7238 for After Final communications.


Art Unit: 2184

Communications via Internet e-mail regarding this application, other than those under 35 U.S.C. 132 or which otherwise require a signature, may be used by the applicant and should be addressed to [**emerson.puente@uspto.gov**].

All Internet e-mail communications will be made of record in the application file. PTO employees do not engage in Internet communications where there exists a possibility that sensitive information could be identified or exchanged unless the record includes a properly signed express waiver of the confidentiality requirements of 35 U.S.C. 122. This is more clearly set forth in the Interim Internet Usage Policy published in the Official Gazette of the Patent and Trademark on February 25, 1997 at 1195 OG 89.

Any inquiry of a general nature or relating to the status of this application should be directed to the receptionist whose telephone number is (703) 305-3900.

Emerson Puente
10/30/02


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